

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT CODE		PAGE OF PAGES 1 7	
2. AMENDMENT/MODIFICATION NO.  479		3. EFFECTIVE DATE  See Block 16C		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY CODE OPOS John F. Kennedy Space Center, NASA Procurement Office Kennedy Space Center, FL 32899				7. ADMINISTERED BY (If other than Item 6) CODE			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  Space Gateway Support, LLC 1980 N Atlantic Ave, Suite 330 Cocoa Beach, FL 32931				9A. AMENDMENT OF SOLICITATION NO.			
				9B. DATED (SEE ITEM 11)			
				10A. MODIFICATION OF CONTRACT/ORDER NO. NAS10-99001			
				10B. DATED (SEE ITEM 13) August 21, 1998			
CODE		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended. <input type="checkbox"/> is not extended.							
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning ____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
ACCOUNTING AND APPROPRIATION DATA (If required)							
<b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).							
<input checked="" type="checkbox"/> C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: FAR 52.243-2 Changes – Cost Reimbursement (AUG 1987) Alt II (APR 1984)							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return 3 copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
<p>The purpose of this no cost modification is to update Laboratories Workload Indicators (WLIs) which includes correction of errors in WLIs to reflect values negotiated in modification 205 (adjusted for subsequent modifications), move all WLIs from Technical Exhibit (T.E.) 7.0-113 to Contract Attachment J-12 and deleting T.E. 7.0-113, updating T.E. 3.2.3.2-01 to incorporate additional equipment supported through contract changes and changing the Statement of Work to correctly reference changes.</p> <p>This change revises Attachment J-1, Statement of Work WBS 3.2.3.2, Attachment J-12, Workload Indicators, T.E. 3.2.3.2-01, Special Calibrations Support - AF PMEL and NASA Standards and Calibrations and deletes T.E. 7.0-113, Calibration Laboratory Workload Data as shown on the attached pages. All other terms and conditions of the contract remain unchanged.</p> <p>In consideration of the modification agreed to herein as complete equitable adjustment for the contractor's proposal for adjustment, the contractor hereby releases the government from any and all liability under this contract for further equitable adjustments attributable to such facts and circumstances giving rise to the proposal for adjustment.</p>							
Except as provided herein, all terms and conditions of the document referenced in Item 9a or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print) Victoria G. Lockard Director, Contracts				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Ernest G. Tweedie Contracting Officer			
15B. CONTRACTOR/OFFEROR <i>Victoria G. Lockard</i> (Signature of person authorized to sign)		15C. DATE SIGNED 19 Nov 07		16B. UNITED STATES OF AMERICA <i>Ernest G. Tweedie</i> (Signature of Contracting Officer)		16C. DATE SIGNED 21 Nov 07	

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**3.2.3.2 Standards and Calibration.** The contractor shall provide calibration service for Standards and Test, Measurement and Diagnostic Equipment (TMDE), including related repairs, to NASA-KSC, PAFB, CCAFS, JDTMA, and Down Range to Ascension Island and Antiqua. NASA-KSC customers entitled to calibration service include NASA-KSC, CAPPS, SPOC, Allied Signal, and other NASA contractors with the appropriate calibration support clause in their contracts. Allied Signal is entitled to Standards Calibration only. AF customers entitled to support include the 45<sup>th</sup> Space Wing, 45<sup>th</sup> Space Wing contractors with the appropriate calibration support clauses in their contracts, JSTARS, and other government agencies with Host Tenant Agreements which specify calibration support. Services shall be provided in accordance with Technical Order 00-20-14 or ANSI/NCSL Z540. The requirements for all Standards and Calibration services are as listed in J-BOSC **Section J-12** and Technical Exhibit 3.2.2.2-01. (Mod 348, 402, 451)

The contractor shall comply with following documents:

Document Number	Document Title
45 SWI 21-101	Repair, Calibration, and Certification of Test, Measurement, and Diagnostic Equipment (Option 3A and 3B)
ANSI/NCSL Z540-1-1994	Calibration Laboratories and Measuring & Test Equipment - General Requirements
T.O. 33K-1-100	TMDE Interval, Calibration and Repair, T.O. Reference Guide and Work Unit Code Manual (Option 3A and 3B Requirement Only) (Mod 79)

The contractor shall provide reference standards calibration and maintenance to NASA-KSC. Cleaning incidental to calibration shall be provided to NASA-KSC. Metrology engineering services shall be provided to NASA-KSC. Engineering services shall be provided to AF PMEL customer's Non-TMDE, assets as listed in **Section J-12**.

The contractor shall provide pick-up and delivery service for JSTARS equipment from/to Melbourne Airport. Repair of JSTARS equipment shall be performed up to \$100 without prior approval. JSTARS authorization shall be obtained for repairs expected to exceed \$100. The contractor shall maintain a repair authorization log to track JSTARS repair authorizations exceeding \$100. (Mod 451)

The contractor's primary tasks include the following:

- Provide laboratory and in-place calibrations for required technical disciplines and instruments. In-place calibration is provided only for items embedded in systems too large to move or whose accuracy would be affected by movement after calibration;
- Provide equipment repair as listed in **Section J-12**;
- Provide cleaning incidental to calibration for NASA and NASA contractors with the appropriate J-BOSC clause in their contracts;
- Maintain KSC reference standards and provide working standard measurement data traceable to National Institute of Standards and Technology (NIST) or intrinsic standards for KSC;

- Serve as pivot laboratory for Measurement Assurance Programs (MAPs) and participate and support other MAPs as required;
- Prepare and maintain the Standards and Calibration Measurement Capabilities Report that defines the measurement parameters supported by the labs; the range, media, accuracy, and uncertainty; and the technique, system, and equipment associated with each parameter;
- Maintain existing and develop new laboratory procedures;
- Operate and maintain a Metrology Information System to recall and control standards and test equipment systems;
- Operate and maintain the Shared Resources Management System used to control automated calibration work stations; and
- Operate the Air Force provided data collection system in support of Air Force requirements to provide appropriate information to Air Force Metrology and Calibration (AFMETCAL)

The contractor shall provide 45<sup>th</sup> Space Wing launch contractors information regarding action taken and out-of-tolerance data for TMDE when requested by the user. The contractor shall notify the user when out-of-tolerance conditions are 200 percent or more. The contractor shall provide calibration data sheets or charts for TMDE as a result of an out-of-tolerance condition or on other TMDE as required by the user. The contractor shall prepare and implement a Quality Assurance Program (QAP) that ensures the quality of the calibrations performed on reference and working standards and on the test equipment in the inventory.

The contractor shall develop and maintain laboratory procedures including the following standard operating procedures: equipment receiving, storage, distribution, issue, accounting, and control; procedures governing the individual calibration and test processes; government access to facilities and equipment; equipment and systems maintenance; and property management and disposal.



The contractor shall provide a written statement certifying the accuracy of the workload data on an annual basis as of 30 September of each fiscal year. The first statement shall be no later than 30 September 2003.

WBS	Function	Workload Description or Document Title	Document Number (if Applicable)	Rev. Date
3.2.3.1	Laboratories (Nondestructive Evaluation)	<ul style="list-style-type: none"> <li>15 to 20% of all NDE tasks are performed in the laboratory.</li> <li>80 to 85% of all NDE tasks are performed in the field.</li> <li>2795 total NDE work orders including (KSC/45 SW): (Mod 261) (Mod 328) (Mod 444)</li> <li>Other NASA centers/government agencies on-site NDE work orders - 5 projects (not exceeding 40 hours per project).</li> </ul>	MOD 250 Mod 479	
3.2.3.2	Laboratories (Standards and Calibrations)	<b>NASA M &amp; TE Calibrations per year - 12,805</b> <ul style="list-style-type: none"> <li>Repairs 600</li> <li>In Place Calibrations (see note 1) 85</li> <li>Cleaning Incidental to Calibration 1250</li> <li>Pivot Laboratory Tasks 4</li> </ul> <b>NASA Reference and Working Standards - 1100</b>	Mod 479	
3.2.3.2	Laboratories (Standards and Calibrations)	<b>Air Force M &amp; TE Calibrations per year - 16,627</b> <ul style="list-style-type: none"> <li>Repairs 507</li> <li>In Place Calibrations (see note 1) 800</li> <li>Down Range Calibrations per year <ul style="list-style-type: none"> <li>JDMTA 274</li> <li>Ascension/Antigua 1400</li> </ul> </li> <li>Support to Items Not Entitled to PMEL Service per T.O. 00-20-14 or T.O. 33K-1-100-2 (see note 2) 1500</li> </ul>	Mod 479	
3.2.3.2	Laboratories (Standards and Calibrations)	<b>NOTES:</b> 1. Provided for items imbedded in systems, too large to move, or whose accuracy would be affected by movement after calibration.	Mod 479	

The contractor shall provide a written statement certifying the accuracy of the workload data on an annual basis as of 30 September of each fiscal year. The first statement shall be no later than 30 September 2003.

WBS	Function	Workload Description or Document Title	Document Number (if Applicable)	Rev. Date
		2. Includes instruments defined by the referenced documents as "USER", "NCR", or "Non TMDE".		
3.2.3.3	Laboratories (Sampling and Analysis)	Approximately 13,189 sampling work orders, including: (Mod 444) <ul style="list-style-type: none"> <li>• 60% hazardous commodity sampling</li> <li>• 40% operational commodity sampling</li> </ul> 4,500 analysis work orders for KSC, including: (Mod 250) <ul style="list-style-type: none"> <li>• 425 TCLP analyses</li> <li>• 375 environmental and waste analyses</li> <li>• 750 permeability &amp; compatibility studies</li> </ul>	MOD 250 Mod 479	
3.2.3.4	Laboratories (Component Cleaning and Refurbishment)	2,956 work orders (Cleaning/Decontamination Requests) 50 to 75 Type 3 work orders (Ref. KSC Form 3-341B for CDR) (Mod 250) (Mod 444)	MOD 250 Mod 479	

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Technical Exhibit # J5-3.2.3.2-01  
(CCR 08-02, Mod 479)

Technical Exhibit # J5-3.2.3.2-01  
Special Calibrations Support  
AF PMEL and NASA Standards and Calibrations

### 3.2.3.2 Standards and Calibration

Equipment Type	CCR	NASA	Air Force
Thread Ring Gauges (note 3)	06-30, 07-62	13	0
CAPPs Crane Scales	04-36, 07-52	7	0
Platinum Resistance Thermometer	06-30	1	0
Helium Leak Detectors	06-30	2	0
4 channel VXI D/A Converter	06-30	1	0
Hydrazine Gas Detector	06-42	3	0
Gas Detector (N204 Calibrated)	06-42	3	0

#### Notes:

- 1 The purpose of this Technical Exhibit is to identify additional equipment which is beyond the in house capability of the Contractor and has been added through contract changes. These quantities represent the actual number of units and **DO NOT** equate directly to workload indicators which are specified in number of calibration/maintenance actions.
- 2 Quantities indicate the number of each equipment type supported. All equipment will be serviced at regular intervals in accordance with established NASA/USAF calibration interval authorities as appropriate.
- 3 Thread Ring Gauge calibrations shall be limited to **three (3)** for FY07



JBOSC Technical Exhibit 7.0 – 113  
Calibration Laboratory Workload Data  
**DELETED MOD 479**

March 2007

	<b>NASA</b>	<b>Air Force</b>
<b>Instruments in Recall</b>	15,000	29,000
<b>M &amp; TE Calibration per year including:</b>	10,000 – 15,200	27,000 – 33,000
• Repairs	1,200 – 1,300	1,597 (see note 1)
• In Place Calibrations	80 – 90 (see note 2)	1,548 (see note 2)
• Cleaning Incidental to Calibration	2,500 – 2,600	N/A
• Return to Factory for Service	354	N/A
<b>Down Range Calibrations per year</b>		
• JDMTA	N/A	274
• Ascension/Antigua	N/A	916
<b>Support to Items Not Entitled to PMEL Service per T.O. 00-20-14 or T.O. 33K-1-100-2</b>	N/A	2,178 (see note 3)
<b>Pivot Laboratory Tasks</b>	3 to 5	N/A

Notes:

- Repairs will be performed by the PMEL provided: the repair is within the current capability of the PMEL and/or time spent attempting/performing the repair will not exceed routine calibration time. J-STARS repairs are limited to \$100; owning workcenter's authorization required for repairs exceeding \$100. PMEL to track and provide repair costs to customer when requested. (Mod 451)
- Provided for items imbedded in systems, too large to move, or whose accuracy would be affected by movement after calibration.
- Includes instruments defined by the referenced documents as "USER", "NCR", or "Non TMDE".
- Workload indicators are not absolute, generally allowing a +/- 10% rate of fluctuation.